

**Amendment and Response**

Applicant: David C. Chu et al.

Serial No.: 10/668,851

Filed: September 23, 2003

Docket No.: 10030919-1 (A310.167.101)

Title: PHASE DIGITIZER FOR SIGNALS IN IMPERFECT QUADRATURE

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**REMARKS**

The following remarks are made in response to the Office Action mailed February 7, 2005. Claims 32-39 have been allowed. Claims 1 and 15-23 were rejected. Claims 2-10, 12-14, and 24-29 have been objected to. With this Response, claims 1, 15, and 24 have been amended. Claim 40 has been added. Claims 1-10 and 12-40 remain pending in the application and are presented for reconsideration and allowance.

**Specification**

The Specification has been amended to describe the limitation of previous independent claim 1 (now included in new dependent claim 40) including wherein linear regression processing is applied to selected sums of the digital signal waveform samples. Since this text was included in original dependent claim 11 of the originally filed application, no new matter has been added with this amendment.

**Claim Rejections under 35 U.S.C. § 112**

The Examiner rejected claim 1 under 35 U.S.C. § 112, first paragraph as failing to comply with the written description requirement.

Independent claim 1 has been amended to remove the limitation wherein linear regression processing is applied to selected sums of the digital signal waveform samples. In addition, support for the removed limitation has been added to the specification. Applicants believe amended claim 1 is now supported by the Specification. The Specification states "phase digitizer 200 uses a block regression technique for phase digitizing in the steady state, wherein linear regression processing is applied to selected sums of the digital signal waveform samples." (Page 12, lines 23-24, and amendment).

Therefore, Applicants respectfully request the withdrawal of the rejection of claim 1 under 35 U.S.C. § 112, and request allowance of claim 1.

**Claim Rejections under 35 U.S.C. § 102**

The Examiner rejected claims 15-23 under 35 U.S.C. § 102(b) as being anticipated by Clark et al., U.S. Patent No. 3,956,623.

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Independent claim 15 has been amended to include a limitation from provisionally allowed claim 24. Claim 15, as amended, includes the limitation "wherein the digital phase accumulator is configured to generate a plurality of digital phase progression values based on current frequency values and current phase correction values." Therefore, applicants believe claim 15 to be allowable over the cited reference.

Applicants respectfully request the withdrawal of the rejection of claim 15 under 35 U.S.C. § 102(b), and request allowance of claim 15. Dependent claims 16-23 further define patentably distinct independent claim 15. Accordingly, dependent claims 16-23 are also believed to be allowable over the art of record. Allowance of claims 16-23 is respectfully requested.

**Added Claims**

Claim 40 has been added. Claim 40 further defines patentably distinct independent claim 1. Dependent claim 40 includes the limitation that was removed from independent claim 1. Applicants believe added dependent claim 40 to be allowable over the art of record and is supported in the amended Specification as indicated above. Allowance of claim 40 is respectfully requested.

**Allowable Subject Matter**

Claims 32-39 are allowed.

The Examiner objected to claims 2-10, 12-14, and 24-29 for being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all limitations of the base claim and any intervening claims. Claims 2-10 and 12-14 further define patentably distinct independent claim 1. Accordingly, dependent claims 2-10 and 12-14 are also believed to be allowable. Dependent claims 24-31 further define patentably distinct independent claim 15. Accordingly, dependent claims 24-31 are also believed to be allowable over the art of record.

**CONCLUSION**

In view of the above, Applicants respectfully submit that pending claims 1-10 and 12-40 are in form for allowance and are not taught or suggested by the cited references.

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Therefore, reconsideration and withdrawal of the rejections and allowance of claims 1-10 and 12-40 is respectfully requested.

No fees are required under 37 C.F.R. 1.16(b)(c). However, if such fees are required, the Patent Office is hereby authorized to charge Deposit Account No. 50-1078.

The Examiner is invited to contact the Applicant's representative at the below-listed telephone numbers to facilitate prosecution of this application.

Any inquiry regarding this Amendment and Response should be directed to either June L. Bouscaren at Telephone No. (970) 679-3238, Facsimile No. (970) 679-5772 or Patrick G. Billig at Telephone No. (612) 573-2003, Facsimile No. (612) 573-2005. In addition, all correspondence should continue to be directed to the following address:

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Respectfully submitted,

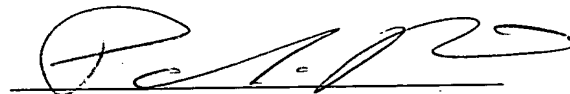
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**CERTIFICATE UNDER 37 C.F.R. 1.8:** The undersigned hereby certifies that this paper or papers, as described herein, are being deposited in the United States Postal Service, as first class mail, in an envelope address to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 6 day of May, 2005.

By 

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